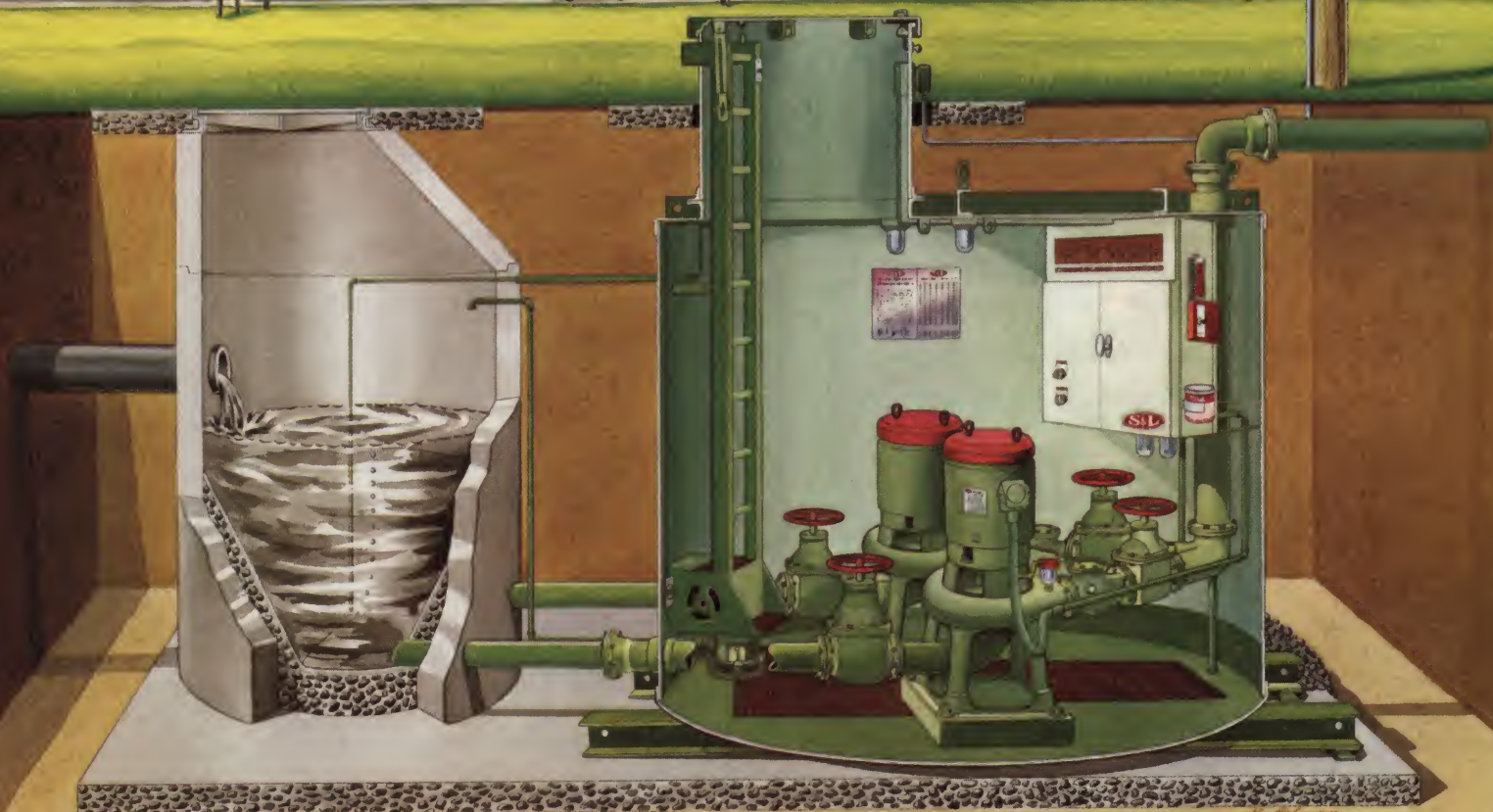


Smith & Loveless
FACTORY - BUILT
**SEWAGE PUMPING
STATIONS**



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MANUFACTURERS OF WATER AND SEWAGE TREATMENT EQUIPMENT

SMITH & LOVELESS, INC. P. O. BOX 8884
KANSAS CITY 15, MISSOURI

Smith & Loveless
**FACTORY-BUILT
SEWAGE PUMPING STATIONS**

The world's largest manufacturer of complete factory-built sewage lift stations, Smith & Loveless specializes in building America's finest, automatic, underground, sewage pump station. Each station is designed to meet the specifications of the most exacting engineer, to be as trouble-free as possible and to require a minimum of maintenance.

The Smith & Loveless factory-built sewage pump station is a quality product... efficient, automatic, economical... one that combines imaginative engineering with skilled manufacturing to bring you an integrated, job-proven pump station that will meet your specific requirements.

The wide acceptance of Smith & Loveless factory-built sewage pump stations proves their merit. Smith & Loveless lift stations now number over 1,000 in locations from coast to coast, all over the United States, including Alaska, and in Canada.

Smith & Loveless sewage pump stations are available in standard sizes for capacities from 100 GPM to 4,500 GPM per pump with two or three pumps per station. Even larger capacity stations are built to your order.

SPECIFY SMITH & LOVELESS FACTORY-BUILT SEWAGE PUMP STATIONS WHEN:

- The topography does not permit gravity flow without excessive sewer depth;
- The sewage must be lifted over a ridge or hill through a long force main to a point from which it will flow by gravity;
- The hydraulic gradient is such that there is insufficient head for gravity flow through a treatment plant;
- The sewer discharges into a body of water with the hydraulic gradient of the sewer below the water surface.

The Smith & Loveless sewage pump station is a complete factory-built unit that includes all equipment ready to operate. Every item of mechanical and electrical equipment has been operated and found free of defects by thorough operating tests under simulated field conditions on our test floor at the factory.

Delivered to the installation site on special Smith & Loveless trucks, this factory-built sewage pump station can be installed simply and economically in a day.

Complete specifications, job recommendations, installation instructions, detailed drawings, pump-selection charts, operating instructions and a representative list of installations can be found in the 100-page data manual on Smith & Loveless sewage lift stations.



Smith & Loveless
**UNDERGROUND STATIONS
ARE INCONSPICUOUS**

The Smith & Loveless factory-built sewage pump station is located underground, is inconspicuous and vandal proof, requires no external upkeep and may be located in a public parkway, thereby eliminating the necessity of purchasing expensive land.

These underground stations are a far cry from the old pump house located above ground, creating an eye sore and reducing the value of adjoining property. Above-ground stations are often damaged by vandalism and maintenance costs are high.



Smith & Loveless
**PUMP STATIONS ARE CLEAN
WITH CONDITIONED AIR**

The interior of the Smith & Loveless pump station is attractive, efficiently designed and clean, with conditioned air. It is compact, yet roomy enough to allow easy access and work room for maintenance personnel.

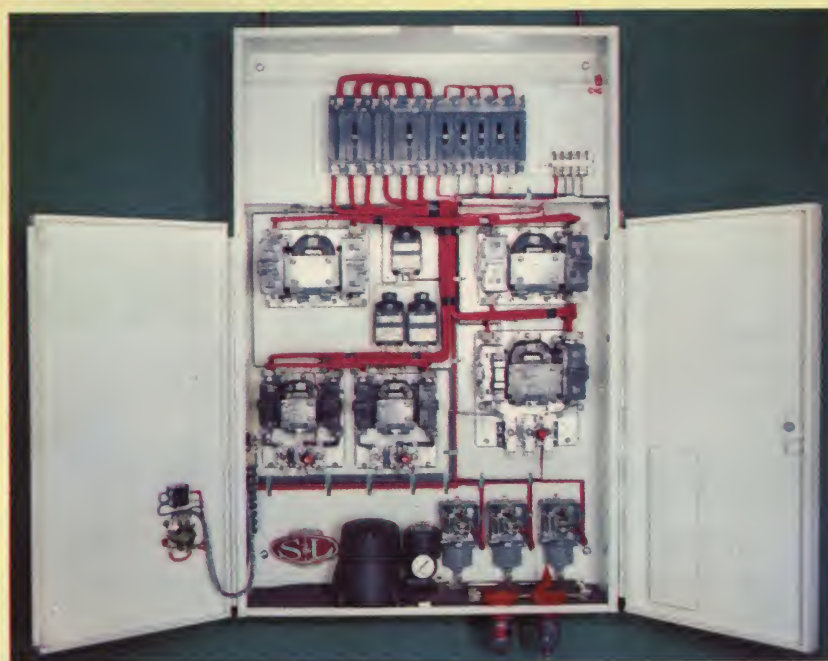
A dehumidifier keeps the equipment dry and prevents condensation on the walls of the pump station. The air inside the station is conditioned to keep the unit in top operating condition at all times.



Smith & Loveless
**CONTROL PANELS ARE DESIGNED
FOR EACH SPECIFIC JOB**

For each sewage pump station, Smith & Loveless builds the electrical control panel to meet the job requirements. An efficient air-bubbler system automatically controls the pumps, alternately or in parallel in accordance with the variations of sewage flow into the wet well.

Color-coded wiring is provided for identification and all switches are labeled. Each control panel must pass a rigid "power-on" test of every working part, even before it is installed. It is then re-tested following installation in the station.

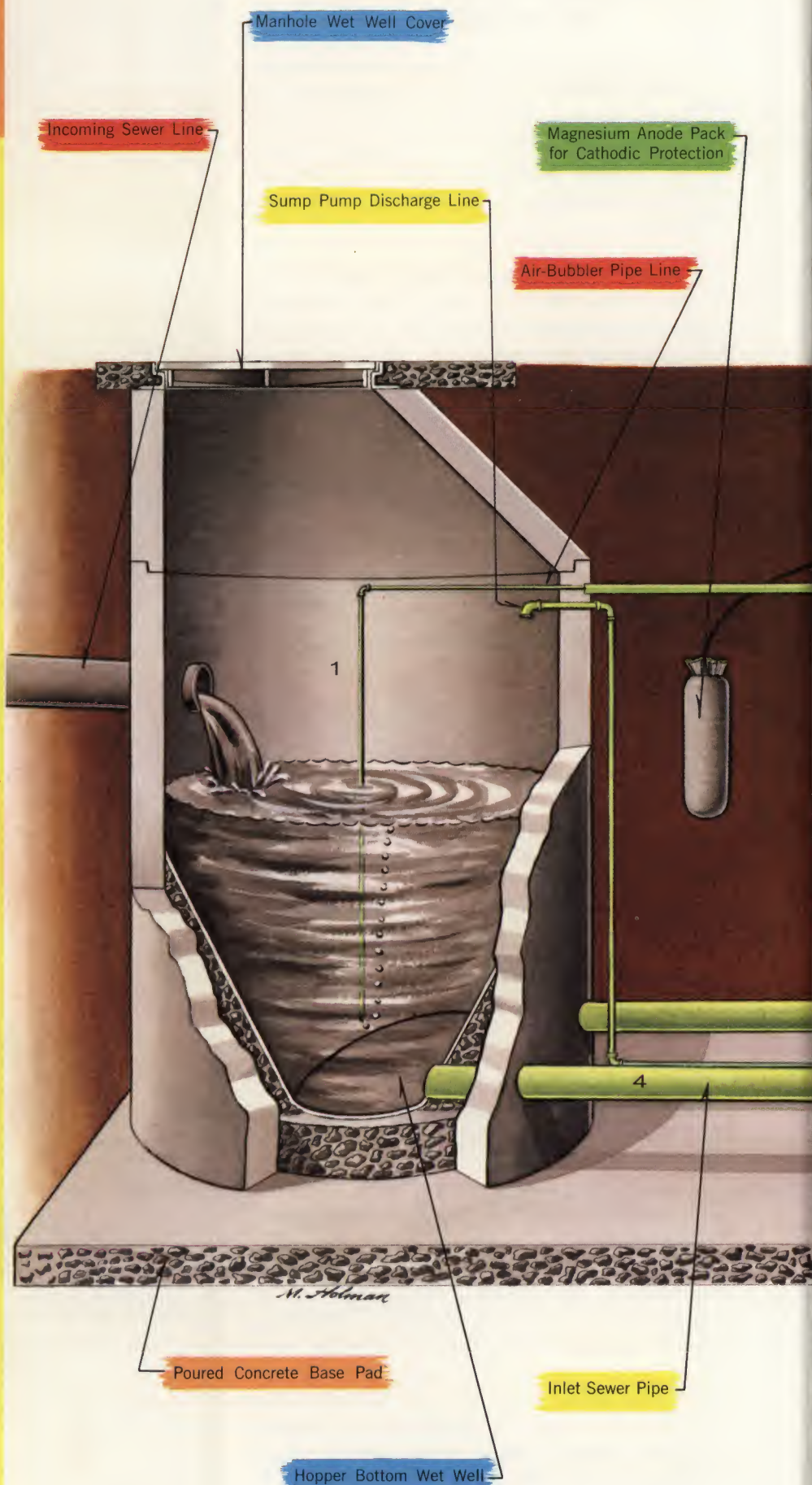


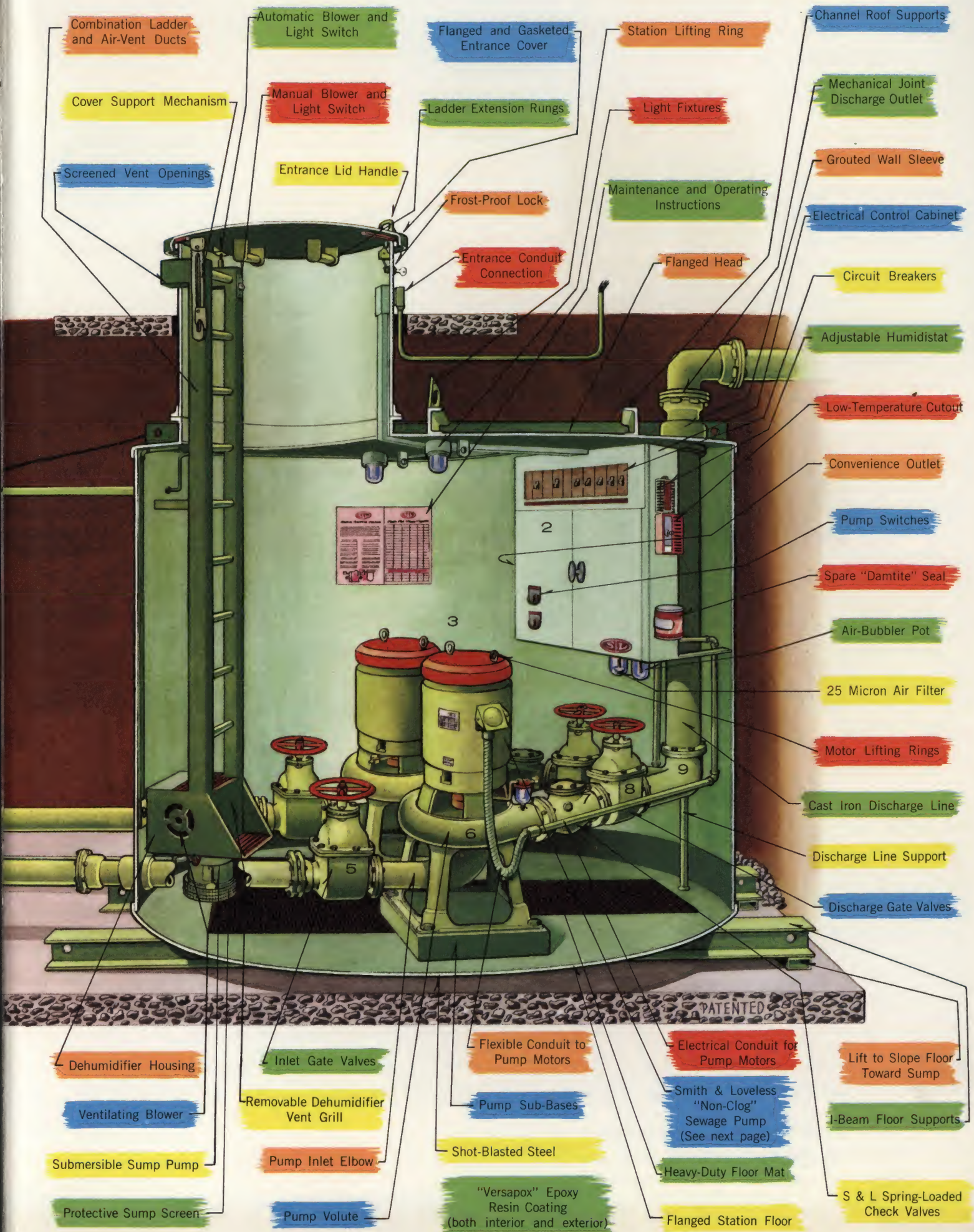
BASICALLY THIS IS HOW THE FACTORY-BUILT SMITH & LOVELESS SEWAGE PUMP STATION OPERATES:

Beside the sewage pump station is a wet well or receiving manhole that receives the inflowing sewage. As the wet well level rises, the pipe (1) of the air-bubbler system is submerged in the sewage, causing an increasing back pressure on the steady stream of air that is being ejected into the wet well by the compressor in the control panel (2). At a predetermined level, this back pressure in the system actuates a mercury pressure switch which energizes a magnetic starter. One of the pumps (3) goes on and the sewage flows out of the wet well, into the station, through the inlet pipe (4), through a gate valve (5), into the pump (6), out through a check valve (7), the discharge gate valve (8) and out the discharge force main (9).

The sensitive mercury pressure switches for each of the sewage pumps are set at different levels so when necessary all pumps will operate to handle maximum flows. An automatic alternator is provided to change the sequence of operation of the pumps on the completion of each pumping cycle. This allows even distribution of the work load on the pumps. It, too, provides for all pumps to operate simultaneously should the level in the wet well continue to rise above the starting level for the low-level pump cycle.

The automatic pump control (the air-bubbler system) includes a dependable air compressor, an air reservoir to store the air, an adjustable needle valve which allows a steady stream of air to flow into the system, an air filter to protect the needle valve and a heavy plastic air-bubbler pot through which the air will bubble as it does in the wet well. This allows a good visual check of the system's operation. The system is automatic, efficient and dependable.



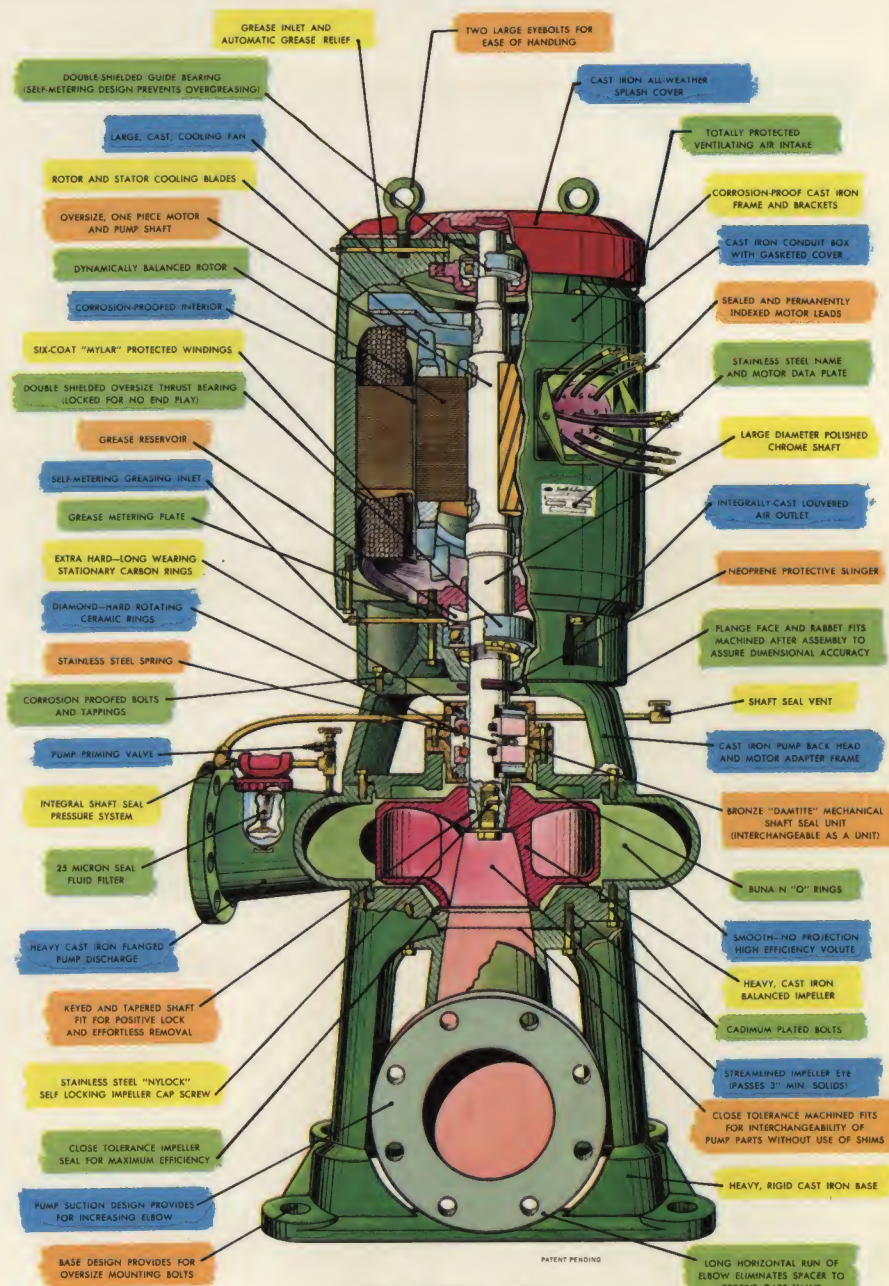


Smith & Loveless

The world's largest manufacturer of complete factory-built sewage lift stations, Smith & Loveless offers a superior vertical close-coupled "Non-Clog" sewage pump . . . the one pump designed to meet all the "must" requirements for sewage service. The Smith & Loveless sewage pump is the result of research and field service and reflects over 10 years of experience with over 1,000 varied installations.

The Smith & Loveless "Non-Clog" sewage pump has the following principal features of design and construction:

- Designed for dry-pit installation to insure accessibility for maintenance and service and to protect bearings, etc. from corrosive sewage and sewage fumes.
- All liquid openings will pass a minimum of 3" diameter sphere to accommodate sewage solids from a 4" house connection.
- The shaft seal is liquid and gas tight to eliminate noxious and dangerous gases, as well as putrescible sewage from the pump room.
- Large-diameter one-piece motor and pump shaft is supported by heavy-duty ball bearings to insure freedom from vibration.
- Heavy, rugged design is precision manufactured of materials properly selected for resistance to corrosion and abrasion.
- Especially designed for minimum and easy maintenance.



CROSS SECTION VIEW
SMITH & LOVELESS NON-CLOG SEWAGE PUMPS

Compare THESE SMITH & LOVELESS PUMP DESIGN FEATURES WITH ANY OTHER:

1. Double mechanical seal in separate self-aligning bronze housing with integral pressure system.
2. Minimum overhang from motor bearing to impeller.
3. One-piece shaft with full pump-end diameter into motor. Others use standard motor with stub shafts or sleeves to increase diameter through packing box.
4. Oversized bearings to carry unbalanced impeller loads when handling heavy sewage solids.
5. Tapered shaft end for solid impeller fit and easy removal.
6. Maximum pump efficiencies with ability to handle minimum 3" solids.
7. Shaft run out held to .003" maximum.
Shaft end play held to .010" maximum
Vibration movement .005" maximum.

Smith & Loveless SEWAGE PUMPS ARE SUPERIOR IN DESIGN AND QUALITY

THE SMITH & LOVELESS FACTORY IS SPECIALLY DESIGNED TO BUILD AMERICA'S FINEST SEWAGE LIFT STATIONS



The rapid-growing Smith & Loveless plant at Lenexa, Kansas, is especially designed for the manufacture of sewage lift stations and sewage treatment plants.



TWO ASSEMBLY BAYS, like this one, are in full production. In this modern factory, a variety of highly skilled crafts are coordinated to produce a quality product...skills difficult to obtain for on-the-job construction.



PRECISION WELDING by skilled operators is rigidly controlled by Smith & Loveless. Each sub-assembly is carefully-fabricated in our own welding shop and each part is blasted with steel grit to remove rust, welding slag and other foreign particles before coating with "Versapox" epoxy resin.



ELECTRICAL TECHNICIANS build the control panel for each specific job. In this modern electrical shop, every panel is expertly assembled, examined and tested to assure trouble-free operation in the field.



STATION TESTING is a "must" requirement for every Smith & Loveless product. Before shipment, each lift station is tested under simulated field conditions for several hours... your assurance of receiving a trouble-free, thoroughly tested station.



ON-THE-SITE DELIVERY by special Smith & Loveless trucks means "no delay" at installation time. The station arrives ready for installation quickly and economically in as little as one day.

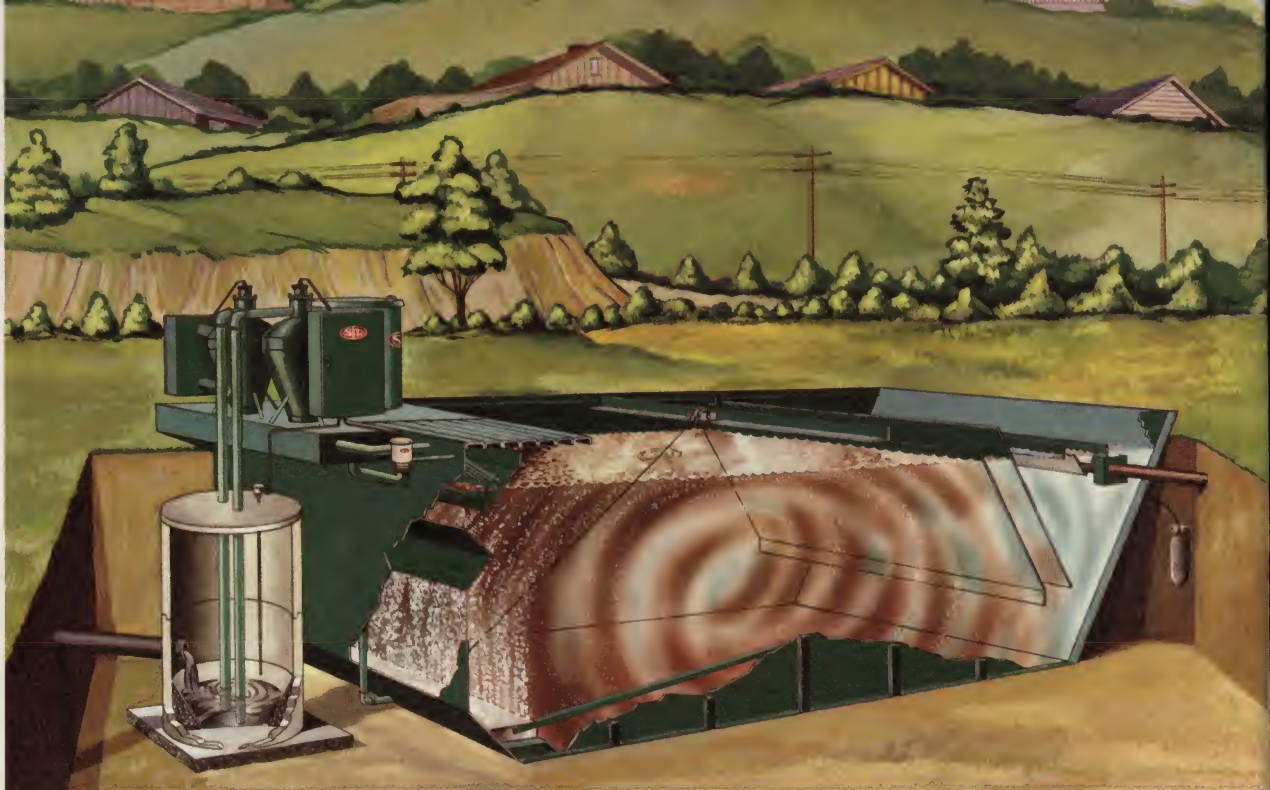


ENGINEERING KNOW-HOW plus research makes product improvement a continuous thing at Smith & Loveless. Here, an experienced engineering department is continually designing lift stations to meet special and unusual applications.

FOR COMPLETE DETAILS about Smith & Loveless factory-built sewage pump stations, our complete line of pneumatic ejector lift stations or our "Oxigest" sewage treatment plant (see next page) write to: Smith & Loveless, Inc., P.O. Box 8884, Kansas City 15, Missouri. Or, write for the name of our representative near you.

**FACTORY-BUILT
SEWAGE TREATMENT
PLANT FOR SMALL
• SUB-DIVISIONS
• FACTORIES
• SCHOOLS
• MOTELS**

**This Data Manual
Tells the Story . . .**



Smith & Loveless **"OXIGEST"** Sewage Treatment Plant

Smith & Loveless offers this low-cost sewage treatment plant in 27 standard sizes to cover a wide range of applications. It has been carefully engineered for dependable treatment without requiring a skilled operator.

The "Oxigest" is factory-built of the finest materials by factory experts and will provide a permanent plant with minimum annual maintenance. It is quickly, economically and easily installed after delivery to the job site.

Plus **AMERICA'S FINEST, MOST COMPLETE LINE OF PNEUMATIC EJECTOR SEWAGE LIFT STATIONS**

Smith & Loveless' complete line of factory-built pneumatic ejector sewage lift stations offers you a universal selection of lift stations to meet your requirements. To lift smaller flows the pneumatic sewage ejector is the only satisfactory answer for only the larger sewage pumps can match the ability of the pneumatic ejector to handle large sewage solids.

The Smith & Loveless "Mon-O-Ject", "Du-O-Ject", "Vac-O-Ject" and "Way-O-Matic" stations are superior in design and engineering. They exceed all others in simplicity of operation, dependability and durability. Each is factory-tested by actual operation before delivery on special Smith & Loveless trucks.



Smith & Loveless **"MON-O-JECT"**

This single pneumatic ejector station (pictured) is designed for smaller capacities for factories, schools, motels and small subdivisions. Capacities 30 GPM to 200 GPM.

Smith & Loveless **"DU-O-JECT"**

Similar to the "Mon-O-Ject" but with two compressors and two receivers for standby dependability or extra capacity for peak loads.

Smith & Loveless **"WAY-O-MATIC"**

Similar to the pump station but with ejectors replacing the pumps and with a superior patented control system.

Smith & Loveless **"VAC-O-JECT"**

A minimum-size complete station using both vacuum and pressure to give two-stage lifting action—and the lowest cost.

The above products are covered by U.S. Patents Nos. 2,817,299; 2,779,562 and 2,821,125. Additional patents pending.

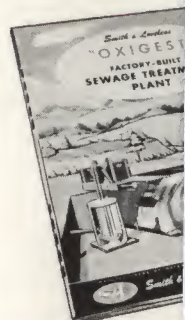


SMITH & LOVELESS, INC. P. O. BOX 8884
KANSAS CITY 15, MISSOURI
PLANT — LENEXA, KANSAS • REPRESENTATIVES IN PRINCIPAL CITIES

- FACTORY-BUILT
SEWAGE TREATMENT
PLANT FOR SMALL**
- SUB-DIVISIONS
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 - SCHOOLS
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